

PATENT
Attorney Docket No.: 47539.00027

AMENDMENTS TO THE CLAIMS:

Replacement Claim Set:

1. (Currently amended) An ink jet head comprising:

a plate shaped nozzle tip nozzle chip comprising a front end surface in which a plurality of nozzles nozzle for jetting ink is are provided, a back end surface opposed to the front end surface, and four side surfaces adjacent to a the back end surface which is opposite to the nozzle; and

a frame shape member on which the nozzle tip is mounted to position and mount the nozzle chip thereon including: the frame shape member comprising a first protrusion pair which abuts on one pair of facing sides of the four side surfaces to sandwich the nozzle tipchip, and a second protrusion pair which abuts on the other pair of facing sides of the four side surfaces to sandwich the nozzle tipchip.

2. (Currently amended) The ink jet head of claim 1, wherein the nozzle tip nozzle chip comprises an electrode terminal on a central portion of the one pair of facing sides, and the first protrusion pair abuts on a portion of the one pair of facing sides on which no electrode terminal is provided to sandwich the nozzle tipnozzle chip.

3. (Currently amended) The ink jet head of claim 1, wherein the frame shape member comprises an abutment portion on which the back end surface of the nozzle tip nozzle chip abuts.

4. (Original) The ink jet head of claim 1, wherein the frame shape member comprises a first protrusion member and a second protrusion member on inner walls of both ends of the frame shape member, respectively, so as to face each other, the first pro-

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trusion member comprising the first protrusion pair and one protrusion of the second protrusion pair, the second protrusion member comprising the first protrusion pair and the other protrusion of the second protrusion pair.

5. (Currently amended) The ink jet head of claim 4, wherein each of the first protrusion member and the second protrusion member further comprises an abutment portion on which the back end surface of the nozzle tip nozzle chip abuts.

6. (Original) The ink jet head of claim 5, wherein the first protrusion pair is arranged on the abutment portion perpendicularly.

7. (Original) The ink jet head of claim 5, wherein the second protrusion pair is arranged on the abutment portion perpendicularly.

8. (Original) The ink jet head of claim 1, wherein the frame shape member is made of at least one selected from aluminum, resin, magnesium and silver.

9. (Original) The ink jet head of claim 1, wherein the frame shape member is formed as one body by die-casting.

10. (Original) The ink jet head of claim 9, wherein the first protrusion pair and the second protrusion pair are formed by cutting process.

11. (Currently amended) The ink jet head of claim 1, wherein the nozzle tip nozzle chip has a thin plate shape.

12. (Currently amended) The ink jet head of claim 1, wherein the back end surface of the nozzle tip nozzle chip has a uniform width.

13. (Currently amended) The ink jet head of claim 1, wherein a width of the back end surface of the nozzle tip nozzle chip is smaller than a width of the front end surface.

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14. (Original) The ink jet head of claim 1, wherein a piezoelectric element of shear mode type is built in the ink jet head.

15. (Currently amended) An ink jet printer comprising:
~~an ink jet head which comprises a nozzle tip a plate shaped nozzle chip including~~
~~comprising a front end surface in which a nozzle plurality of nozzles for jetting ink is~~
~~provided, a back end surface opposed to the front end surface and four side surfaces adjacent to a the back end surface which is opposite to the nozzle, and a frame shape member~~
~~comprising including a first protrusion pair which abuts on one pair of facing sides of the~~
~~four side surfaces to sandwich the nozzle tip nozzle chip and a second protrusion pair~~
~~which abuts on the other pair of facing sides of the four side surfaces to sandwich the~~
~~nozzle tip nozzle chip for positioning and mounting the nozzle tip nozzle chip; and~~
a carriage on which the ink jet head is mounted in a state pre-positioned.

16. (Currently amended) The ink jet printer of claim 15, wherein ~~the nozzle tip nozzle chip~~ comprises an electrode terminal on a central portion of the one pair of facing sides, and the first protrusion pair abuts on a portion of the one pair of facing sides on which no electrode terminal is provided to sandwich the ~~nozzle tip nozzle chip~~.

17. (Currently amended) The ink jet printer of claim 15, wherein the frame shape member comprises an abutment portion on which the back end surface of the ~~nozzle tip nozzle chip~~ abuts.

18. (Original) The ink jet printer of claim 15, wherein the frame shape member comprises a first protrusion member and a second protrusion member on inner walls of both ends of the frame shape member, respectively, so as to face each other, the first protrusion member comprising the first protrusion pair and one protrusion of the second

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protrusion pair, the second protrusion member comprising the first protrusion pair and the other protrusion of the second protrusion pair.

19. (Currently amended) The ink jet printer of claim 18, wherein each of the first protrusion member and the second protrusion member further comprises an abutment portion on which the back end surface of the ~~nozzle tip nozzle chip~~ abuts.

20. (Original) The ink jet printer of claim 19, wherein the first protrusion pair is arranged on the abutment portion perpendicularly.

21. (Original) The ink jet printer of claim 19, wherein the second protrusion pair is arranged on the abutment portion perpendicularly.

22. (Original) The ink jet printer of claim 15, wherein the frame shape member is made of at least one selected from aluminum, resin, magnesium and silver.

23. (Original) The ink jet printer of claim 15, wherein the frame shape member is formed as one body by die-casting.

24. (Original) The ink jet printer of claim 23, the first protrusion pair and the second protrusion pair are formed by cutting process.

25. (Currently amended) The ink jet printer of claim 15, wherein the ~~nozzle tip nozzle chip~~ has a thin plate shape.

26. (Currently amended) The ink jet printer of claim 15, wherein the back end surface of the ~~nozzle tip nozzle chip~~ has a uniform width.

27. (Currently amended) The ink jet printer of claim 15, wherein a width of the back end surface of the ~~nozzle tip nozzle chip~~ is smaller than a width of the front end surface.

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28. (Original) The ink jet printer of claim 15, wherein a piezoelectric element of shear mode type is built in the ink jet head.